In the Sequence Listing:

Please replace the current sequence listing with the attached sequence listing (164 pages).



SEQUENCE LISTING

110> BRIDON, Dominique P.
DUFRESNE, Robert S.
BOUDJELLAB, Nissab
ROBITAILLE, Martin
MILNER, Peter G.

<120> LONG LASTING FUSION PEPTIDE INHIBITORS OF VIRAL INFECTION

<130> REDC-1511 USA

<140> US 09/657,336

<141> 2000-09-07

<150> US 60/153,406

<151> 1999-09-10

<160> 545

<170> PatentIn Ver. 2.1

<210> 1

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 1

Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 20 25 30

Trp Asn Trp Phe 35

<210> 2

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 2

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 1 5 10 15

Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu

RECEIVED 2003
RECH CENTER 1800/2900

20 25 30

Arg Tyr Leu Lys Asp Gln 35

<210> 3

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 3

Tyr Thr Asn Thr Ile Tyr Thr Leu Leu Glu Glu Ser Gln Asn Gln Gln 1 5 10 15

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 20 25 30

Trp Asn Trp Phe 35

<210> 4

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 4

Tyr Thr Gly Ile Ile Tyr Asn Leu Leu Glu Glu Ser Gln Asn Gln Gln 1 5 10 15

Glu Lys Asn Glu Glu Leu Leu Glu Leu Asp Lys Trp Ala Asn Leu 20 25 30

Trp Asn Trp Phe 35

<210> 5

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 5

Tyr Thr Ser Leu Ile Tyr Ser Leu Leu Glu Lys Ser Gln Thr Gln Gln

1 10 15 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe 35 <210> 6 <211> 36 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 6 Leu Glu Ala Asn Ile Ser Lys Ser Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Ile Phe Gly Asn Trp Phe 35 <210> 7 <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 7 Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln 5 Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe 25 Thr Asn Trp Leu 35 <210> 8 <211> 41 <212> PRT <213> Artificial Sequence

<223> Description of Artificial Sequence: synthetic

peptide

Cys Gly Gly Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln <210> 9 <211> 38 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Gln Gln Leu Leu Asp Val Val Lys Arg Gln Gln Glu Met Leu Arg Leu Thr Val Trp Gly Thr Lys Asn Leu Gln Ala Arg Val Thr Ala Ile Glu Lys Tyr Leu Lys Asp Gln 35 <210> 10 <211> 46 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 10 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr 25 Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 35 40 <210> 11 <211> 54 <212> PRT

<213> Artificial Sequence

<220> <223> Description of Artificial Sequence: synthetic peptide <400> 11 Ala Ser Gly Val Ala Val Ser Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn Tyr Ile Asp Lys Gln Leu Leu 50 <210> 12 <211> 53 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 12 Gly Glu Pro Ile Ile Asn Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp 1 5 10 Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser 20 25 Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu His Asn Val Asn Ala 40 Gly Lys Ser Thr Thr 50 <210> 13 <211> 48 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 13 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 20 25

Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr

<210> 14 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 14 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 1 5 Cys Asn Gly Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys 25 20 Tyr Lys <210> 15 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys 5 Asn Gly Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr 20 25 Lys Asn <210> 16 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 16

Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly 10 ٠1 5 Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn 25 Ala Val <210> 17 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 17 Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Met Asn Gly 10 5 Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn 25 Ala Val <210> 18 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 18 Val Ala Val Ser Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val 25 Ser <210> 19 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic

peptide

<212> PRT

<213> Artificial Sequence

<400> 19 Ala Val Ser Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val <210> 20 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 20 Val Ser Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val 20 Leu <210> 21 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 21 Ser Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu 5 Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val Leu 25 20 Thr <210> 22 <211> 33

8

<220> <223> Description of Artificial Sequence: synthetic peptide <400> 22 Lys Val Leu His Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val Leu Thr Ser <210> 23 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Leu Glu Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala 5 Val Val Ser Leu Ser Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu 25 Asp <210> 24 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 24 Gly Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu 25 Lys

9

<210> 25

```
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Glu Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser
Leu Ser Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys
                                 25
Asn
<210> 26
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 26
Val Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu
Ser Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn
                                 25
Tyr
<210> 27
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 27
Asn Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser
Asn Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn Tyr
             20
```

10

Ile

```
<210> 28
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 28
Lys Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn
Gly Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn Tyr Ile
Asp
<210> 29
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 29
Ile Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly
                                      10
Val Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn Tyr Ile Asp
             20
                                  2S
                                                      30
Lys
<210> 30
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 30
Ala Leu Leu Ser Thr Asn Lys Ala Val Val Ser Leu Ser Asn Gly Val
                  5
                                                          15
Ser Val Leu Thr Ser Lys Val Leu Asp Leu Lys Asn Tyr Ile Asp Lys
                                  25
                                                      30
             20
```

Gln

```
<210> 31
<211> 70
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 31
Gly Thr Ile Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala
                  5
Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu
Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser
                             40
Ser Ile Gly Asn Leu Ile Val Ala Ile Lys Ser Val Gln Asp Tyr Val
Asn Lys Glu Ile Val Pro
<210> 32
<211> 56
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 32
Tyr Thr Pro Asn Asp Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro
                5
Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu
Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly
                             40
Asn Trp His Gln Ser Ser Thr Thr
     50
                         55
<210> 33
<211> 35
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu
                                     10
Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg
                                 25
Arg Ser Asn
         35
<210> 34
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 34
Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu
Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg
                                 25
Ser Asn Gln
         35
<210> 35
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 35
Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn
                                     10
Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
             20
Asn Gln Lys
```

35

<210> 36 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 36 Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn 20 25 Gln Lys Leu 35 <210> 37 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala 5 Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln 20 25 Lys Leu Asp <210> 38 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys 25

Leu Asp Ser

35

```
<210> 39
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser
                  5
                                                          15
Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu
                                  25
Asp Ser Ile
         35
<210> 40
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp
Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp
                                  25
Ser Ile Gly
         35
<210> 41
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 41
Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu
Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser
```

20 25 30

Ile Gly Asn

<210> 42

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 42

Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu

1 10 15

Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile 20 25 30

Gly Asn Trp

<210> 43

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 43

Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu 1 5 10 15

Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly
20 25 30

Asn Trp His

<210> 44

<211> 35

<212> PRT

<213> Artificial Sequence

<2205

<223> Description of Artificial Sequence: synthetic
 peptide

<400> 44

Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser

1 10 15 Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly Asn Trp His Gln <210> 45 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 45 Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly Asn Trp His Gln Ser <210> 46 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 46 Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu 5 Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly Asn Trp His 25 20 Gln Ser Ser 35 <210> 47 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic

peptide

Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp 5 Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly Asn Trp His Gln Ser Ser Thr <210> 48 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser Asn Gln Lys Leu Asp Ser Ile Gly Asn Trp His Gln Ser 25 Ser Thr Thr <210> 49 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser 35 <210> 50 <211> 35 <212> PRT <213> Artificial Sequence

peptide <400> 50 Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln 25 Ser Ser Ile 35 <210> 51 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 51 Leu Val Glu Ala Lys Gln Ala Arq Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile 20 25 Gly Asn Leu 35 <210> 52 · <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 52 Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly 20 25 Asn Leu Ile 35 <210> 53 <211> 35

<223> Description of Artificial Sequence: synthetic

<220>

```
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 53
Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile
Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn
Leu Ile Val
         35
<210> 54
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 54
Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg
                                      10
                  5
Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu
             20
Ile Val Ala
         35
<210> 55
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                  5
Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu Ile
                                 25
Val Ala Ile
         35
```

<212> PRT

```
<210> 56
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 56
Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr
Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu Ile Val
                                  25
Ala Ile Lys
         35
<210> 57
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 57
Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn
Lys Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu Ile Val Ala
                                 25
Ile Lys Ser
         35
<210> 58
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 58
Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys
Ala Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu Ile Val Ala Ile
             20
                                 25
```

```
Lys Ser Val
         35
<210> 59
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 59
Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala
Val Gln Ser Val Gln Ser Ser Ile Gly Asn Leu Ile Val Ala Ile Lys
                                  25
Ser Val Gln
         35
<210> 60
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 60
Lys Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val
                                      10
                 5
Gln Ser Ser Ile Gly Asn Leu Ile Val Ala Ile Lys Ser Val Gln Asp
                                                      30
             20
Tyr Val Asn
         35
<210> 61
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 61
Leu Lys Glu Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln
                  5
                                      10
```

Ser Ser Ile Gly Asn Leu Ile Val Ala Ile Lys Ser Val Gln Asp Tyr 20 25 Val Asn Lys <210> 62 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 62 Ala Ile Arg Asp Thr Asn Lys Ala Val Gln Ser Val Gln Ser Ser Ile 5 Gly Asn Leu Ile Val Ala Ile Lys Ser Val Gln Asp Tyr Val Asn Lys 20 25 Glu Ile Val <210> 63 <211> 47 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Thr Trp Gln Glu Trp Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Gly Asn Trp Phe 40 <210> 64 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 64

5 1 10 Ala Leu Leu Glu Glu Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu 25 Leu Gln Lys 35 <210> 65 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Gln Glu Trp Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala 10 Leu Leu Glu Glu Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu 25 Gln Lys Leu 35 <210> 66 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 66 Glu Trp Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn 35 <210> 67 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic

Trp Gln Glu Trp Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr

peptide <400> 67 Trp Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser 35 <210> 68 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 68 Glu Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu 20 Asn Ser Trp <210> 69 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 69 Arg Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu 5 Ala Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp <210> 70 <211> 35

<212> PRT

<213> Artificial Sequence

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 70
Lys Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala
Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser
                                 25
Trp Asp Val
<210> 71
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 71
Val Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln
                  5
Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp
                                 25
Asp Val Phe
<210> 72
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 72
Asp Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile
Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp .
Val Phe Gly
         35
<210> 73
```

<211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 73 Phe Leu Glu Glu Asn Ile Thr Ala Leu Leu Glu Glu Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val 25 Phe Gly Asn 35 <210> 74 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 74 Pro Asp Ala Val Tyr Leu His Arg Ile Asp Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys 25 Leu Glu Asp 35 <210> 75 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 75 Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp Gln Ile Leu Arg Ser 20 25 30 Met Lys

27

```
<210> 76
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 76
Leu His Arg Ile Asp Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp
Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu
Leu Leu
<210> 77
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 77
His Arg Ile Asp Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val
                 5 ..
Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu
             20
Leu Glu
<210> 78
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 78
Arg Ile Asp Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly
                  5
                                                          15
Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu
```

25

20

Glu Ser <210> 79 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 79 Ile Asp Leu Gly Pro Pro Ile Ser Leu Glu Arq Leu Asp Val Gly Thr 5 15 Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser <210> 80 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asp Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser 25 Ser Asp <210> 81 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic

<400> 81
Leu Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu
1 5 10 15

peptide

Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser 25 Asp Gln <210> 82 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 82 Gly Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp 25 Gln Ile <210> 83 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 83 Pro Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp Gln 20 25 Ile Leu <210> 84 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic

peptide

<400> 84 Pro Ile Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp Gln Ile 25 Leu Arg <210> 85 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 85 Ser Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala 5 Lys Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp Gln Ile Leu Arg 20 Ser Met <210> 86 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 86 Leu Glu Arg Leu Asp Val Gly Thr Asn Leu Gly Asn Ala Ile Ala Lys 15 5 Leu Glu Ala Lys Glu Leu Leu Glu Ser Ser Asp Gln Ile Leu Arg Ser 20 25 Met Lys <210> 87 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic

peptide

<220>

<400> 87 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp 35 <210> 88 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 88 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn <210> 89 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 89 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp <210> 90 <211> 32 <212> PRT <213> Artificial Sequence

peptide <400> 90 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 1 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 20 25 <210> 91 <211> 31 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 91 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 10 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser 20 25 <210> 92 <211> 30 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 92 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala 20 25 <210> 93 <211> 29 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 10

<223> Description of Artificial Sequence: synthetic

Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp 20 <210> 94 <211> 28 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic. peptide <400> 94 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 1 5 10 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys 20 25 <210> 95 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 95 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 1 5 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp 20 <210> 96 <211> 26 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 96 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu 20 25

<210> 97

```
<211> 25
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 97
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
Glu Lys Asn Glu Gln Glu Leu Leu Glu
             20
<210> 98
<211> 24
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 98
'Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
                                      10
  1
Glu Lys Asn Glu Gln Glu Leu Leu
             20
<210> 99
<211> 23
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 99
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
Glu Lys Asn Glu Gln Glu Leu
             20
<210> 100
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
```

. .

peptide <400> 100 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 Glu Lys Asn Glu Gln Glu 20 <210> 101 <211> 21 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 101 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 10 Glu Lys Asn Glu Gln 20 <210> 102 <211> 20 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 10 15 Glu Lys Asn Glu 20 <210> 103 <211> 19 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 103 Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln

15

10

5

```
Glu Lys Asn
<210> 104
<211> 18
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                                      10
                                                           15
  1
                  5
Glu Lys
<210> 105
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 105
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
                                      10
Glu
<210> 106
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 106
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
<210> 107
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
```

```
<400> 107
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln
                  5
                                      10
<210> 108
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 108
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn
                  5
                                      10
<210> 109
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 109
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln
                  5
<210> 110
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 110
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser
                  5
<210> 111
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
```

```
<400> 111
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu Glu
                 5
<210> 112
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 112
Tyr Thr Ser Leu Ile His Ser Leu Ile Glu
          5
<210> 113
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 113
Tyr Thr Ser Leu Ile His Ser Leu Ile
<210> 114
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 114
Tyr Thr Ser Leu Ile His Ser Leu
                  5
<210> 115
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 115
```

```
Tyr Thr Ser Leu Ile His Ser
 1
<210> 116
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 116
Tyr Thr Ser Leu Ile His
<210> 117
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 117
Thr Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
                                                          15
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                                      25
Trp Asn Trp Phe
            35
<210> 118
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Ser Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                                         25
                    20
Trp Asn Trp Phe
```

```
<210> 119
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 119
Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                                             25
    15
Trp Asn Trp Phe
30
<210> 120
<211> 32
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 120
Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                            20
                                                  25
         15
Trp Asn Trp Phe
    30
<210> 121
<211> 31
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                                 20
Trp Asn Trp Phe
```

```
<210> 122
<211> 30
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 122
Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
                                     10
  1
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
                                    20
Trp Asn Trp Phe
            30
<210> 123
<211> 29
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
                  5
                                      10
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                20
<210> 124
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Ile Glu Glu Ser Gln Asn Gln Glu Lys Asn Glu Gln Glu
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                    20
15
                                          25
```

```
<210> 125
<211> 27
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 125
Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
    15
                        20
<210> 126
<211> 26
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 126
Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
        15
                            20
<210> 127
<211> 25
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
            15
<210> 128
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 128
Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu
                 5
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                15
<210> 129
<211> 23
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 129
Asn Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys
                 5
Trp Ala Ser Leu Trp Asn Trp Phe
                20
<210> 130
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 130
Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp
Ala Ser Leu Trp Asn Trp Phe
                 20
<210> 131
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 131
Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala
                  5
                                     10
```

```
<210> 132
<211> 20
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 132
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser
                 5
Leu Trp Asn Trp Phe
                20
<210> 133
<211> 19
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 133
Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
Trp Asn Trp Phe
<210> 134
<211> 18
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Asn Glu Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser
                 5
                                    10
Leu Trp Asn Trp Phe
     15
<210> 135
<211> 17
```

Ser Leu Trp Asn Trp Phe

```
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 135
Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser
Leu Trp Asn Trp Phe
        15
<210> 136
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 136
Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                                    10
                 5 .
<210> 137
<211> 15
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 137
Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                 5
<210> 138
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 138
Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                 5
```

```
<210> 139
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 139
Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
<210> 140
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 140
Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
<210> 141
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 141
Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
<210> 142
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 142
Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe
                 5
                                     10
<210> 143
<211> 9
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 143
Lys Trp Ala Ser Leu Trp Asn Trp Phe
<210> 144
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 144
Trp Ala Ser Leu Trp Asn Trp Phe
 1
                5
<210> 145
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 145
Ala Ser Leu Trp Asn Trp Phe
<210> 146
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 146
Ser Leu Trp Asn Trp Phe
<210> 147
<211> 37
<212> PRT
<213> Artificial Sequence
```

peptide <400> 147 Asn Asn Leu Leu Arq Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu 25 Arg Tyr Leu Lys Asp 35 <210> 148 <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 148 Asn Asn Leu Leu Arq Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys 35 <210> 149 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 149 Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu 35 <210> 150

<223> Description of Artificial Sequence: synthetic

```
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 150
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
                                  25
Arg Tyr
<210> 151
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
  1
                  5
Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
             20
                                  25
Arg
<210> 152
<211> 32
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 152
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                  5
                                      10
Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
             20
<210> 153
<211> 31
<212> PRT
```

<213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 10 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val 25 <210> 154 <211> 30 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala 20 25 <210> 155 <211> 29 <212> PRT -<213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 15 5 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu 20 <210> 156 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide

<400> 156 Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile <210> 157 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 157 Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 10 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg 20 <210> 158 <211> 26 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 5 15 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala 20 <210> 159 <211> 25 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 15 5 10

Thr Val Trp Gln Ile Lys Gln Leu Gln

```
<210> 160
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 160
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
Thr Val Trp Gln Ile Lys Gln Leu
<210> 161
<211> 23
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 161
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
Thr Val Trp Gln Ile Lys Gln
             20
<210> 162
<211> 22
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 162
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
Thr Val Trp Gln Ile Lys
             20
<210> 163
<211> 21
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 163
Asn Asn Leu Leu Arq Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                  5
Thr Val Trp Gln Ile
             20
<210> 164
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 164
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                                      10
                                                          ¢
Thr Val Trp Gln
             20
<210> 165
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 165
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                                      10
Thr Val Trp
<210> 166
<211> 18
<212>.PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 166
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
```

```
5
                                     10
                                                          15
 1
Thr Val
<210> 167
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 167
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                  5
Thr
<210> 168
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
                  5
                                     10
<210> 169
<211> 15
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 169
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln
                  5
<210> 170
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
```

```
<400> 170
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu
                  5
<210> 171
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 171
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu
                  5
<210> 172
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 172
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His
                  5
<210> 173
<211> 11 ·
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 173
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln
                  5
  1
<210> 174
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
```

```
<400> 174
Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln
                 5
<210> 175
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 175
Asn Asn Leu Leu Arg Ala Ile Glu Ala
 1 5
<210> 176
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 176
Asn Asn Leu Leu Arg Ala Ile Glu
<210> 177
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 177
Asn Asn Leu Leu Arg Ala Ile
      5
<210> 178
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 178
```

```
Asn Asn Leu Leu Arg Ala
                  5
  1
<210> 179
<211> 37
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 179
Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu
Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
                                     25
Arg Tyr Leu Lys Asp Gln
            35
<210> 180
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 180
Leu Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr
                                      10
Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu
                 20
                                     25
Arg Tyr Leu Lys Asp Gln
                 35
<210> 181
<211> 35
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 181
Leu Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val
                   5
                                      10
```

Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg 25 20 Tyr Leu Lys Asp Gln 35 <210> 182 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 182 Arg Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp 1 5 15 Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr 20 25 Leu Lys Asp Gln <210> 183 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln 1 Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu 20 25 Lys Asp Gln <210> 184 <211> 32

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic peptide

<400> 184

<212> PRT

Ile Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile 5 1 10 Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys 20 25 Asp Gln <210> 185 <211> 31 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 185 Glu Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys 5 Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln <210> 186 <211> 30 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 186 Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln 20 25 <210> 187 <211> 29 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 187 Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu

5 1 10 15 Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln <210> 188 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 188 Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln 20 <210> 189 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 189 His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala 5 Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln <210> 190 <211> 26 <212> PRT <213> Artificial Sequence . <220> <223> Description of Artificial Sequence: synthetic peptide Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln

```
<210> 191
<211> 25
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 191
Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile
Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
                20
<210> 192
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 192
Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu
Ala Val Glu Arg Tyr Leu Lys Asp Gln
                20
<210> 193
<211> 23
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 193
Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala
Val Glu Arg Tyr Leu Lys Asp Gln
                20
<210> 194
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
```

<223> Description of Artificial Sequence: synthetic peptide <400> 194 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val 5 Glu Arg Tyr Leu Lys Asp Gln 20 <210> 195 <211> 21 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 195 Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln 20 <210> 196 <211> 20 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 196 Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln 20 <210> 197 <211> 19 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 197 · Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr 5 15 1 10

```
Leu Lys Asp Gln
<210> 198
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 198
Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu
                                      10
Lys Asp Gln
<210> 199
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 199
Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys
                  5
Asp Gln
<210> 200
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 200
Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
<210> 201
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 201
Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
                                      10
  1
                  5
<210> 202
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 202
Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
                  5
<210> 203
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 203
Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
<210> 204
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 204
Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
                  5
<210> 205
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
```

```
<400> 205
Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
                 5
<210> 206
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 206
Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln
           5 . 10
<210> 207
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 207
Ala Val Glu Arg Tyr Leu Lys Asp Gln
               5
<210> 208
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 208
Val Glu Arg Tyr Leu Lys Asp Gln
      5
<210> 209
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
```

peptide

```
<400> 209
Glu Arg Tyr Leu Lys Asp Gln
                  5
<210> 210
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 210
Arg Tyr Leu Lys Asp Gln
<210> 211
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 211
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                  5
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
             20
Thr Asn Trp
<210> 212
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
                                 25
```

Thr Asn

```
<210> 213
<211> 33
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 213
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
                                                      30
                                  25
Thr
<210> 214
<211> 32
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 214
Leu Glu Ala Ash Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
             20
                                  25
<210> 215
<211> 31
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val
             20
                                  25
<210> 216
<211> 30
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 216
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp
<210> 217
<211> 29
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 217
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp
             20
                                 25
<210> 218
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 218
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                     10
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser
            20
<210> 219
<211> 27
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
```

Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln 5 Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn 20 <210> 220 <211> 26 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 220 Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln 10 Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu 20 <210> 221 <211> 25 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 221 Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys <210> 222 <211> 24 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 222 Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln 10 Glu Lys Asn Met Tyr Glu Leu Gln

<400> 219

```
<210> 223
<211> 23
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 223
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
  1
                  5
Glu Lys Asn Met Tyr Glu Leu
             20
<210> 224
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 224
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
                  5
Glu Lys Asn Met Tyr Glu
             20
<210> 225
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 225
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
Glu Lys Asn Met Tyr
             20
<210> 226
<211> 20
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 226
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
Glu Lys Asn Met
<210> 227
<211> 19
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                  5
                                      10
Glu Lys Asn
<210> 228
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 228
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                                      10
                                                           15
Glu Lys
<210> 229
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 229
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
```

```
5
  1
                                      10
                                                          15
Glu
<210> 230
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 230
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
                  5
                                      10
<210> 231
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 231
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln
<210> 232
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile
  1
                  5
<210> 233
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
```

```
<400> 233
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln
                  5
                                      10
<210> 234
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 234
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala
 1
                  5
<210> 235
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 235
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln
<210> 236
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 236
Leu Glu Ala Asn Ile Ser Gln Ser Leu Glu
                  5
<210> 237
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 237
```

```
Leu Glu Ala Asn Ile Ser Gln Ser Leu
  1
<210> 238
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
<400> 238
Leu Glu Ala Asn Ile Ser Gln Ser
 1
                  5
<210> 239
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 239
Leu Glu Ala Asn Ile Ser Gln
                  5
<210> 240
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 240
Leu Glu Ala Asn Ile Ser
                  5
<210> 241
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 241
Glu Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln
```

1 5 10 15 Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe 20 25 Thr Asn Trp Leu 35 <210> 242 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 242 Ala Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe 20 Thr Asn Trp Leu <210> 243 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 243 Asn Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys 5 Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu <210> 244 <211> 32 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

<400> 244 Ile Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Glu Lys Asn 5 Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn 25 Trp Leu <210> 245 <211> 31 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 245 Ser Gln Ser Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp 20 25 Leu <210> 246 <211> 30 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 246 Gln Ser Leu Glu Gln Ala Gln Ile Gln Glu Lys Asn Met Tyr 10 Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu 25 <210> 247 <211> 29 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu <210> 248 <211> 28 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 248 Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu <210> 249 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln 15 Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu 20 <210> 250 <211> 26 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys 5 Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu 20

Ser Leu Glu Gln Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu

<400> 247

```
<210> 251
 <211> 25
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 251
 Ala Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu
 Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
 <210> 252
 <211> 24
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 252
. Gln Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn
 Ser Trp Asp Val Phe Thr Asn Trp Leu
 <210> 253
 <211> 23
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: synthetic
       peptide
 Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser
 Trp Asp Val Phe Thr Asn Trp Leu
                  20
 <210> 254
 <211> 22
 <212> PRT
 <213> Artificial Sequence
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 254
Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp
Asp Val Phe Thr Asn Trp Leu
                20
<210> 255
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 255
Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp
Val Phe Thr Asn Trp Leu
                20
<210> 256
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 256
Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val
                                      10
Phe Thr Asn Trp Leu
<210> 257
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 257
```

```
Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe
  1
Thr Asn Trp Leu
<210> 258
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 258
Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr
                                      10
Asn Trp Leu
<210> 259
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 259
Met Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn
Trp Leu
<210> 260
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Tyr Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
  1
                  5
                                      10
                                                          15
<210> 261
<211> 15
<212> PRT
<213> Artificial Sequence
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 261
Glu Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
<210> 262
<211> 14
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 262
Leu Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
                  5
<210> 263
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 263
Gln Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
                  5
<210> 264
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Lys Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
                  5
                                     10
<210> 265
<211> 11
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 265
Leu Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
<210> 266
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 266
Asn Ser Trp Asp Val Phe Thr Asn Trp Leu
                5
<210> 267
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 267
Ser Trp Asp Val Phe Thr Asn Trp Leu
<210> 268
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 268
Trp Asp Val Phe Thr Asn Trp Leu
 1
<210> 269
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 269
Asp Val Phe Thr Asn Trp Leu
<210> 270
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 270
Val Phe Thr Asn Trp Leu
<210> 271
<211> 47
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 271
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
             20
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser
                             40
<210> 272
<211> 46
<212> PRT
```

1

<220>

<213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 272 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 5 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 30 20 25

```
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln
         35
                             40
<210> 273
<211> 45
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 273
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                  5
Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met
                              40
<210> 274
<211> 44
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 274
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
                                  25
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu
                              40
         35
<210> 275
<211> 43
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 275
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                                          15
  1
                  5
                                      10
```

Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu <210> 276 <211> 42 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 276 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 10 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln 35 40 <210> 277 <211> 41 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 277 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 25 Lys Tyr Lys Asn Ala Val Thr Glu Leu 35 <210> 278 <211> 40 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic

peptide

86

ï

<400> 278 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 10 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 25 Lys Tyr Lys Asn Ala Val Thr Glu 35 <210> 279 <211> 39 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 279 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr 35 <210> 280 <211> 38 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 280 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 1 5 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 20 25 Lys Tyr Lys Asn Ala Val 35 <210> 281 <211> 37 <212> PRT <213> Artificial Sequence

87

<220>

<223> Description of Artificial Sequence: synthetic peptide <400> 281 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 5 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 20 25 Lys Tyr Lys Asn Ala 35 <210> 282 <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 282 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 5 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 25 Lys Tyr Lys Asn 35 <210> 283 <211> 35 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 25 Lys Tyr Lys 35 <210> 284 <211> 34 <212> PRT

```
<213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 284
 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                       10
 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
                                   25
 Lys Tyr
 <210> 285
 <211> 33
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: synthetic
        peptide
  <400> 285
 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                       10
                                                            15
   1
                    5
 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
               20
                                   25
 Lys
 <210> 286
  <211> 32
  <212> PRT
  <213> Artificial Sequence
  <223> Description of Artificial Sequence: synthetic
        peptide
  <400> 286
 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
               20
                                   25
. <210> 287
  <211> 31
 <212> PRT
 <213> Artificial Sequence
```

<220> <223> Description of Artificial Sequence: synthetic peptide <400> 287. Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 10 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu <210> 288 <211> 30 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 288 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 10 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu 25 <210> 289 <211> 29 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 289 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 5 15 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln 20 25 <210> 290 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 290 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys

Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys <210> 291 <211> 27 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 291 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile 20 <210> 292 <211> 26 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 292 Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 5 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu 20 <210> 293 <211> 25 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys 1

10

1

5

Cys Asn Gly Thr Asp Ala Lys Val Lys

20

15

```
<210> 294
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 294
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                      10
Cys Asn Gly Thr Asp Ala Lys Val
             20
<210> 295
<211> 23
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 295
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                      10
Cys Asn Gly Thr Asp Ala Lys
             20
<210> 296
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                      10
                                                           15
Cys Asn Gly Thr Asp Ala
             20
<210> 297
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 297
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
Cys Asn Gly Thr Asp
             20
<210> 298
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 298
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                      10
Cys Asn Gly Thr
             20
<210> 299
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic -
      peptide
<400> 299
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                                      10
Cys Asn Gly
<210> 300
<211> 18
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 300
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
  1
                  5
                                      10
```

```
Cys Asn
<210> 301
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 301
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
 1
                  5
Cys
<210> 302
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
                  5
                                      10
<210> 303
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 303
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn
                  5
<210> 304
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 304
```

```
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu
                  5
  1
                                      10
<210> 305
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
<400> 305
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys
                  5
<210> 306
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 306
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile
 1
                  5
<210> 307
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 307
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser Asn
  1
                  5
<210> 308
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic

    peptide

<400> 308
Tyr Thr Ser Val Ile Thr Ile Glu Leu Ser
```

```
<210> 309
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 309
Tyr Thr Ser Val Ile Thr Ile Glu Leu
 1
                  5
<210> 310
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 310
Tyr Thr Ser Val Ile Thr Ile Glu
 1
                  5
<210> 311
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 311
Tyr Thr Ser Val Ile Thr Ile
 1
                  5
<210> 312
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 312
Tyr Thr Ser Val Ile Thr
 1
                  5
```

```
<210> 313
<211> 47
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 313
Thr Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys
Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                                40
<210> 314
<211> 46
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 314
Ser Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys
Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                35
                                    40
<210> 315
<211> 45
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Val Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn
                  5
Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys
                                     25
                 20
```

Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 40 <210> 316 <211> 44 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 316 Ile Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly 5 10 15 Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr <210> 317 <211> 43 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Thr Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr 5 10 Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys 25 Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 318 <211> 42 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 318 Ile Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp

1

5

15

10

Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 319 <211> 41 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 319 Glu Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala 5 Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 320 <211> 40 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 320 Leu Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val 25 20 Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 321 <211> 39 <212> PRT <213> Artificial Sequence

<223> Description of Artificial Sequence: synthetic

<220>

peptide

<400> 321 Ser Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr 25 Glu Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 322 <211> 38 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 322 Asn Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys 5 10 Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu 25 Leu Gln Leu Leu Met Gln Ser Thr 35 <210> 323 <211> 37 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 323 Ile Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu 5 Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu 25 20 Gln Leu Leu Met Gln Ser Thr 35 <210> 324 <211> 36 <212> PRT <213> Artificial Sequence <220>

<223> Description of Artificial Sequence: synthetic peptide <400> 324 Lys Glu Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile . 5 Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln 25 Leu Leu Met Gln Ser Thr 35 <210> 325 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 325 Asn Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln 5 Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu 25 Met Gln Ser Thr <210> 326 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 326 Lys Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu 5 Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr <210> 327 <211> 32 <212> PRT <213> Artificial Sequence

<220> <223> Description of Artificial Sequence: synthetic peptide <400> 327 Cys Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln 25 Ser Thr <210> 328 <211> 31 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 328 Asn Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp 1 5 Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser 20 25 Thr <210> 329 <211> 30 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 329 Gly Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys 5 Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 20 <210> 330 <211> 29 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic

peptide

```
<400> 330
Thr Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr
Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
<210> 331
<211> 28
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 331
Asp Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys
                                     10
Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
<210> 332
<211> 27
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
Ala Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn
                                                          15
Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                20
<210> 333
<211> 26
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 333
Lys Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala
```

5

10

Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 20 <210> 334 <211> 25 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 334 Val Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val 10 Thr Glu Leu Gln Leu Leu Met Gln Ser Thr . 20 <210> 335 <211> 24 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 335 Lys Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr 20 <210> 336 <211> 23 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Leu Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu 10 5 Leu Gln Leu Leu Met Gln Ser Thr 20 <210> 337

<211> 22

<212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 337 Ile Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu 5 10 Gln Leu Leu Met Gln Ser Thr 20 <210> 338 <211> 21 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 338 Lys Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln 10 Leu Leu Met Gln Ser Thr 20 <210> 339 <211> 20 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 339 Gln Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu 10 Leu Met Gln Ser Thr 20 <210> 340 <211> 19 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

```
<400> 340
Glu Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu
                  5
Met Gln Ser Thr
<210> 341
<211> 18
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 341
Leu Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met
                  5
                                     10
Gln Ser Thr
<210> 342
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 342
Asp Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln
 1
                                     10
Ser Thr
<210> 343
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 343
Lys Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Met Gln Ser Thr
                  5
                                     10
                                                          15
 1
<210> 344
<211> 15
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 344
Tyr Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                                     10
                  5
<210> 345
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 345
Lys Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                  5
<210> 346
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Asn Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                  5
                                      10
<210> 347
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 347
Ala Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                  5
<210> 348
<211> 11
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 348
Val Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                 5
<210> 349
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 349
Thr Glu Leu Gln Leu Leu Met Gln Ser Thr
                  5
<210> 350
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 350
Glu Leu Gln Leu Leu Met Gln Ser Thr
<210> 351
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Gln Leu Leu Met Gln Ser Thr
 1
                  5
<210> 352
<211> 7
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 352
Gln Leu Leu Met Gln Ser Thr
                  5
<210> 353
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 353
Leu Leu Met Gln Ser Thr
<210> 354
<211> 37
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 354
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
Arg Lys Ser Asp Glu Leu Leu
                35
<210> 355
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 355
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
```

20 25 30

Arg Lys Ser Asp Glu Leu

<210> 356

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide

<400> 356

Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 1 5 10 15

Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
20 25 30

Arg Lys Ser Asp Glu

<210> 357

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide

<400> 357

Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 1 5 10 15

Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile 20 25 30

Arg Lys Ser Asp

<210> 358

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide

<400> 358

Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 1 5 10 15

```
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
                                     25
Arg Lys Ser
<210> 359
<211> 32
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 359
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                  5
                                      10
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
                                     25
                20
Arg Lys
<210> 360
<211> 31
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 360
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
Arg
<210> 361
<211> 30
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 361
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                                                           15
                  5
  1
                                      10
```

Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile <210> 362 <211> 29 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 362 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 5 10 Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe 20 <210> 363 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 363 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 5 Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala 20 <210> 364 <211> 27 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 364 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu 20 25

<210> 365

```
<211> 26
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 365
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser
                20
<210> 366
<211> 25
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 366
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                  5
                                      10
                                                          15
  1
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln
                20
<210> 367
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 367
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                  5
Ile Ser Gln Val Asn Glu Lys Ile Asn
                20
<210> 368
<211> 23
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
```

<400> 368 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 10 Ile Ser Gln Val Asn Glu Lys Ile 20 <210> 369 <211> 22 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 369 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 5 10 Ile Ser Gln Val Asn Glu Lys 20 <210> 370 <211> 21 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 370 Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser 5 10 Ile Ser Gln Val Asn Glu 20 <210> 371 <211> 20 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 371

Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser

5

peptide

```
Ile Ser Gln Val Asn
                20
<210> 372
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 372
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                                      10
Ile Ser Gln Val
<210> 373
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 373
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
 1
                  5
                                      10
Ile Ser Gln
<210> 374
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 374
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                                     10
Ile Ser
<210> 375
<211> 16
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 375
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                  5
                                      10
Tle
<210> 376
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 376
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser
                  5
                                      10
<210> 377
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala
                  5
                                      10
<210> 378
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 378
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp
                  5
<210> 379
<211> 12
<212> PRT
<213> Artificial Sequence
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 379
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe
                  5
<210> 380
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 380
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu
                  5
<210> 381
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 381
Phe Tyr Asp Pro Leu Val Phe Pro Ser Asp
                  5
<210> 382
<211> 9
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Phe Tyr Asp Pro Leu Val Phe Pro Ser
                  5
<210> 383
<211> 8
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 383
Phe Tyr Asp Pro Leu Val Phe Pro
                  5
<210> 384
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 384
Phe Tyr Asp Pro Leu Val Phe
<210> 385
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 385
Phe Tyr Asp Pro Leu Val
                  5
<210> 386
<211> 36
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 386
Tyr Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile
Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg
                20
Lys Ser Asp Glu Leu Leu
                35
```

<210> 387 <211> 35 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 387 Asp Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser . 10 Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys 20 25 Ser Asp Glu Leu Leu <210> 388 <211> 34 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 388 Pro Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln 5 10 Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser 20 25 Asp Glu Leu Leu <210> 389 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 389 Leu Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp 20 25 30 Glu Leu Leu

```
<210> 390
<211> 32
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 390
Val Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn
                  5
Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu
                                     25
Leu Leu
<210> 391
<211> 31
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 391
Phe Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu
                                      10
                  5
Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                                     25
                20
<210> 392
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 392
Pro Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys
                                      10
Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                20
                                     25
<210> 393
<211> 29
<212> PRT
```

<213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 393 Ser Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile 10 Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu 25 <210> 394 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 394 Asp Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu 25 20 <210> 395 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Glu Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln 15 5 Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu 20 <210> 396 <211> 26 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide

<400> 396 Phe Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser 10 Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu 20 <210> 397 <211> 25 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 397 Asp Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu 5 10 Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu 20 <210> 398 <211> 24 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Ala Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala 5 10 . 15 Phe Ile Arg Lys Ser Asp Glu Leu Leu 20 <210> 399 <211> 23 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Ser Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe 1 5 10 Ile Arg Lys Ser Asp Glu Leu Leu

```
<210> 400
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 400
Ile Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile
Arg Lys Ser Asp Glu Leu Leu
<210> 401
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 401
Ser Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg
Lys Ser Asp Glu Leu Leu
<210> 402
<211> 20
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 402
Gln Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys
Ser Asp Glu Leu Leu
                20
<210> 403
<211> 19
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 403
Val Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser
Asp Glu Leu Leu
<210> 404
<211> 18
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Asn Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp
                  5
Glu Leu Leu
<210> 405
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 405
Glu Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu
                                      10
                  5
Leu Leu
<210> 406
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 406
Lys Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                  5
                                      10
```

```
<210> 407
<211> 15
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 407
Ile Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                  5
                                      10
<210> 408
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 408
Asn Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                  5
<210> 409
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 409
Gln Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                  5
                                      10
<210> 410
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 410
Ser Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
```

```
<210> 411
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 411
Leu Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
      . 5
<210> 412
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 412
Ala Phe Ile Arg Lys Ser Asp Glu Leu Leu
                 5
<210> 413
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 413
Phe Ile Arg Lys Ser Asp Glu Leu Leu
<210> 414
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 414
Ile Arg Lys Ser Asp Glu Leu Leu
                5
<210> 415
```

```
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 415
Arg Lys Ser Asp Glu Leu Leu
<210> 416
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 416
Lys Ser Asp Glu Leu Leu
<210> 417
<211> 35
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                  5
Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu
                                     25
                20
Trp Ile Arg Arg Ser
<210> 418
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 418
```

Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 5 1 10 Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg <210> 419 <211> 33 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 419 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 5 Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu 20 25 ' Trp Ile Arg <210> 420 <211> 32 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 420 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu 20 25 Trp Ile <210> 421 <211> 31 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 421

Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 1 5 10 Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu 25 20 Trp <210> 422 <211> 30 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 422 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 5 Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu <210> 423 <211> 29 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 423 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys <210> 424 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 424 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser

Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser

```
<210> 425
<211> 27
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 425
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                 5
                                      10
Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu
                20
<210> 426
<211> 26
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 426
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                  5
Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu
                20
<210> 427
<211> 25
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 427
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu
                20
<210> 428
<211> 24
<212> PRT
```

<213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 428 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 5 10 Ile Glu Leu Asn Lys Ala Lys Ser Asp 20 <210> 429 <211> 23 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 429 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 1 5 10 Ile Glu Leu Asn Lys Ala Lys Ser 20 <210> 430 <211> 22 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 430 Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser 15 1 5 10 Ile Glu Leu Asn Lys Ala Lys 20 <210> 431 <211> 21 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

```
<400> 431
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                                      10
Ile Glu Leu Asn Lys Ala
                20
<210> 432
<211> 20
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 432
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                                      10
Ile Glu Leu Asn Lys
                20
<210> 433
<211> 19
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                                      10
Ile Glu Leu Asn
<210> 434
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 434
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                                      10
Ile Glu Leu
```

```
<210> 435
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 435
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                  5
                                      10
Ile Glu
<210> 436
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 436
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                  5
                                      10
                                                           15
Ile
<210> 437
<211> 15
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 437
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser
                  5
<210> 438
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 438
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile
```

1 5 10

```
<210> 439
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 439
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp
                  5
                                     10
<210> 440
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 440
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile
                 5
<210> 441
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 441
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp Pro
                                     10
        . 5
<210> 442
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 442
Ile Thr Leu Asn Asn Ser Val Ala Leu Asp
 1
                  5
                                     10
```

```
<210> 443
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 443
Ile Thr Leu Asn Asn Ser Val Ala Leu
<210> 444
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 444
Ile Thr Leu Asn Asn Ser Val Ala
  1
                  5
<210> 445
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 445
Ile Thr Leu Asn Asn Ser Val
  1
<210> 446
<211> 6
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 446
Ile Thr Leu Asn Asn Ser
```

<210> 447 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 447 Thr Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp 25 Ile Arg Arg Ser <210> 448 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 448 Leu Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu 10 5 Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile 20 Arg Arg Ser <210> 449 <211> 32 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic <400> 449 Asn Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg 20 Arg Ser

```
<210> 450
<211> 31
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 450
Asn Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn
                  5
Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg
                20
                                     25
Ser
<210> 451
<211> 30
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 451
Ser Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys
                  5
Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
                20
                                     25
<210> 452
<211> 29
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 452
Val Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala
                                      10
Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
<210> 453
<211> 28
<212> PRT
```

<213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 453 Ala Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys 5 10 Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser 20 <210> 454 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 454 Leu Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser 5 Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser 20 <210> 455 <211> 26 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 455 Asp Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp 15 1 5 10 Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser 20 <210> 456 <211> 25 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

<400> 456 Pro Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser 20 <210> 457 <211> 24 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 457 Ile Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser <210> 458 <211> 23 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Asp Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu 10 Ser Lys Glu Trp Ile Arg Arg Ser 20 <210> 459 <211> 22 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 459 Ile Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser 10 Lys Glu Trp Ile Arg Arg Ser

```
<210> 460
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 460
Ser Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys
Glu Trp Ile Arg Arg Ser
<210> 461
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 461
Ile Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu
Trp Ile Arg Arg Ser
<210> 462
<211> 19
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 462
Glu Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp
Ile Arg Arg Ser
<210> 463
<211> 18
<212> PRT
<213> Artificial Sequence
```

```
<220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 463
 Leu Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile
 Arg Arg Ser
 <210> 464
 <211> 17
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 464
 Asn Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg
 Arg Ser
 <210> 465
 <211> 16
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
<400> 465
 Lys Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
                   5
                                                            15
 <210> 466
 <211> 15
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: synthetic
       peptide
 <400> 466
 Ala Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
                                       10
 <210> 467
 <211> 14
```

```
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 467
Lys Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
<210> 468
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 468
Ser Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
<210> 469
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 469
Asp Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
<210> 470
<211> 11
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Leu Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
                  5
                                      10
  1
<210> 471
<211> 10
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 471
Glu Glu Ser Lys Glu Trp Ile Arg Arg Ser
                  5
<210> 472
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 472
Glu Ser Lys Glu Trp Ile Arg Arg Ser
<210> 473
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 473
Ser Lys Glu Trp Ile Arg Arg Ser
<210> 474
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 474
Lys Glu Trp Ile Arg Arg Ser
<210> 475
<211> 6
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 475
Glu Trp Ile Arg Arg Ser
                  5
<210> 476
<211> 34
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 476
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
                                      10
Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys
                                     25
Glu Ala Ile Arg
<210> 477
<211> 33
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 477
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
  1
                  5
Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys
                                     25
Glu Ala Ile
<210> 478
<211> 32
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
```

<400> 478 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys 25 Glu Ala <210> 479 <211> 31 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 10 5 Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys 20 25 Glu <210> 480 <211> 30 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 480 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 5 15 1 Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys 20 25 <210> 481 <211> 29 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 481 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala

1 5 10 15 Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu 20 <210> 482 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 482 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 10 Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys <210> 483 <211> 27 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 15 5 10 Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu 20 <210> 484 <211> 26 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala

5

20

Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile

10

25

<210> 485 <211> 25 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 485 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp 20 <210> 486 <211> 24 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 486 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 10 Leu Val Glu Ala Lys Gln Ala Arg Ser 20 <210> 487 <211> 23 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 487 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 10 15 Leu Val Glu Ala Lys Gln Ala Arg 20 <210> 488 <211> 22 <212> PRT <213> Artificial Sequence <220>

<223> Description of Artificial Sequence: synthetic peptide <400> 488 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala 20 <210> 489 <211> 21 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 489 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln 20 <210> 490 <211> 20 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 490 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys 20 <210> 491 <211> 19 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 491 Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala 1 5 10

```
Leu Val Glu Ala
<210> 492
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 492
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
Leu Val Glu
<210> 493
<211> 17
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 493
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
Leu Val
<210> 494
<211> 16
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 494
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
                   5
                                      10
Leu
<210> 495
<211> 15
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 495
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala
                  5
                                     10
<210> 496
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 496
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val
<210> 497
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala
                                     10
                  5
<210> 498
<211> 12
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 498
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala
<210> 499
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
```

```
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 499
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile Thr
      5
<210> 500
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 500
Ala Leu Gly Val Ala Thr Ser Ala Gln Ile
<210> 501
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 501
Ala Leu Gly Val Ala Thr Ser Ala Gln
<210> 502
<211> 8
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 502
Ala Leu Gly Val Ala Thr Ser Ala
<210> 503
<211> 7
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
```

peptide <400> 503 Ala Leu Gly Val Ala Thr Ser 1 <210> 504 <211> 6 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 504 Ala Leu Gly Val Ala Thr 1 5 <210> 505 <211> 34 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 505 Leu Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu 10 5 Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu 25 Ala Ile Arg Asp <210> 506 <211> 33 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide Gly Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala 25

Ile Arg Asp

```
<210> 507
<211> 32
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 507
Val Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu
Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile
Arg Asp
<210> 508
<211> 31
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 508
Ala Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala
                                      10
Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                                     25
<210> 509
<211> 30
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
Thr Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys
                  5
Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                20
                                     25
<210> 510
```

<211> 29

<212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 510 Ser Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp 20 <210> 511 <211> 28 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 511 Ala Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp <210> 512 <211> 27 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 512 Gln Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp <210> 513 <211> 26 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide

Ile Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser 5 10 Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp 20 <210> 514 <211> 25 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 514 Thr Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arq Ser Asp 5 Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp <210> 515 <211> 24 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 515 Ala Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp 20 <210> 516 <211> 23 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 516 Ala Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp

<400> 513

20

```
<210> 517
<211> 22
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 517
Val Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys
                  5
                                      10
Leu Lys Glu Ala Ile Arg Asp
                20
<210> 518
<211> 21
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 518
Ala Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu
                  5
Lys Glu Ala Ile Arg Asp
                20
<210> 519
<211> 20
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 519
Leu Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys
                                      10
Glu Ala Ile Arg Asp
                20
<210> 520
<211> 19
<212> PRT
```

```
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 520
Val Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu
                                      10
Ala Ile Arg Asp
<210> 521
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 521
Glu Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala
                                      10
Ile Arg Asp
<210> 522
<211> 17
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 522
Ala Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile
                                      10
                 . 5
Arg Asp
<210> 523
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 523
Lys Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                                      10
                                                           15
```

```
<210> 524
<211> 15
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 524
Gln Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                  5
                                      10
<210> 525
<211> 14
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 525
Ala Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
<210> 526
<211> 13
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 526
Arg Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                  5
  1
<210> 527
<211> 12
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 527
Ser Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                  5
```

```
<210> 528
<211> 11
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 528
Asp Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
<210> 529
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 529
Ile Glu Lys Leu Lys Glu Ala Ile Arg Asp
                 5
  1
<210> 530
<211> 9
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 530
Glu Lys Leu Lys Glu Ala Ile Arg Asp
 1
<210> 531
<211> 8
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
     peptide
<400> 531
Lys Leu Lys Glu Ala Ile Arg Asp
 1
                  5
```

```
<210> 532
<211> 7
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 532
Leu Lys Glu Ala Ile Arg Asp
                 5
<210> 533
<211> 6
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 533
Lys Glu Ala Ile Arg Asp
<210> 534
<211> 36
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
<400> 534
Tyr Thr Gly Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln
                  5
Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu
             20
                                 25
Trp Asn Trp Phe
        35
<210> 535
<211> 36
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: synthetic
      peptide
```

<400> 535 Tyr Thr Asn Leu Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn Trp Phe 35 <210> 536 <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 536 Tyr Thr Ser Ile Ile His Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn Trp Phe 35 <210> 537 <211> 36 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 537 Tyr Thr Ser Leu Ile Tyr Ser Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn Trp Phe 35 <210> 538 <211> 36 <212> PRT <213> Artificial Sequence

<220> <223> Description of Artificial Sequence: synthetic peptide <400> 538 Tyr Thr Ser Leu Ile His Arg Leu Ile Glu Glu Ser Gln Asn Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn Trp Phe 35 <210> 539 <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 539 Tyr Thr Ser Leu Ile His Asn Leu Ile Glu Glu Ser Gln Asn Gln Gln 5 1 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp Phe 35 <210> 540 <211> 36 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 540 Tyr Thr Ser Leu Ile His Thr Leu Ile Glu Glu Ser Gln Asn Gln Gln 10 Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 20 25 Trp Asn Trp Phe

35

<210> 541 . <211> 36 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: synthetic peptide <400> 541 Tyr Thr Ser Leu Ile His Ser Leu Leu Glu Glu Ser Gln Asn Gln Gln 5 10 Glu Lys Asn Glu Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu 25 Trp Asn Trp Phe 35 <210> 542 <211> 38 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 542 Ser Asn Leu Leu Arq Ala Ile Glu Ala Gln Gln His Leu Leu Gln Leu 5 Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln 35 <210> 543 <211> 38 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: synthetic peptide <400> 543 Asn Asn Leu Leu Arg Ala Ile Asp Ala Gln Gln His Leu Leu Gln Leu Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu 20 25 30

Arg Tyr Leu Lys Asp Gln 35

<210> 544

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide

<400> 544

Asn Asn Leu Leu Arg Ala Ile Gln Ala Gln Gln His Leu Leu Gln Leu

1 10 15

Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu 20 25 30

Arg Tyr Leu Lys Asp Gln 35

<210> 545

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide

<400> 545

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Met Leu Gln Leu 1 5 10 15

Thr Val Trp Gln Ile Lys Gln Leu Gln Ala Arg Ile Leu Ala Val Glu 20 25 30

Arg Tyr Leu Lys Asp Gln 35